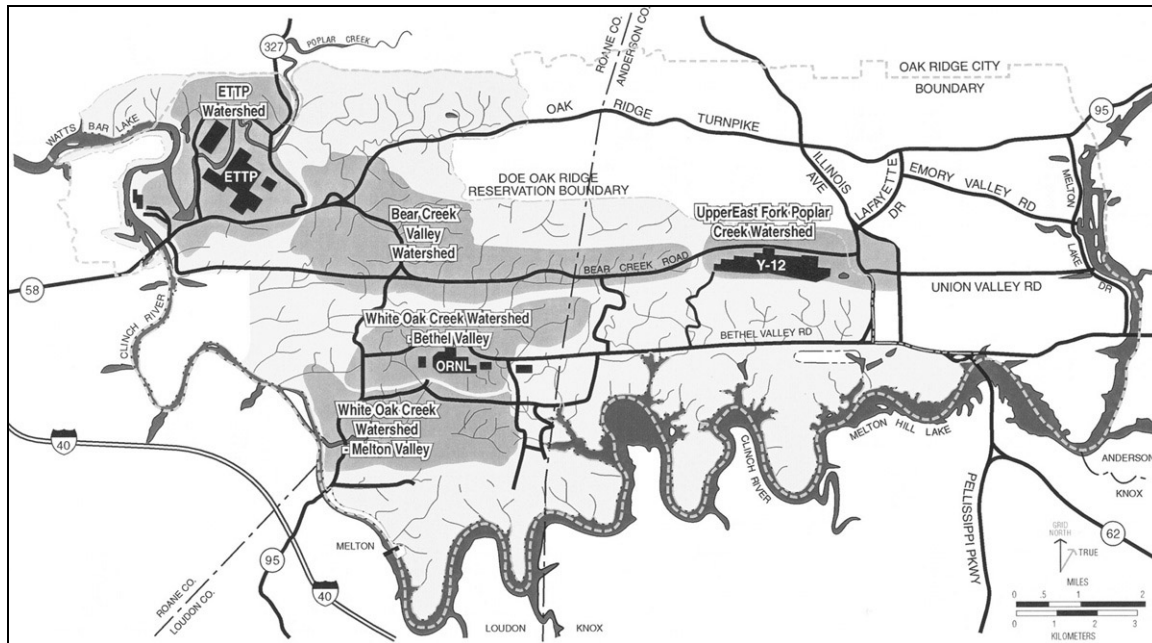


Long-Term Stewardship for the Oak Ridge Reservation



Description of the Oak Ridge Reservation

Since the early 1940s, the U.S. Department of Energy (DOE) Oak Ridge Reservation has been the site of vital national security missions. These activities left a legacy of radioactive and toxic chemical wastes requiring management and/or disposal. Between 5 and 10 percent of the 35,000-acre reservation is occupied by old waste disposal sites. Radioactive and toxic chemical pollutants present in mixed-waste burial grounds, settlement ponds, seepage pits and trenches, inactive tanks, abandoned underground pipelines, and surplus facilities have contaminated soil, groundwater, and surface water in their vicinity.

Abundant rainfall (annual average of 55 inches) and high water tables (0 to 20 feet below the surface) contribute to leaching of contaminants from the waste areas. The leaching results in contaminated soil, surface water, sediments, and groundwater. The underlying geology is complex, and migration of contaminants in groundwater is difficult to monitor on many parts of the reservation.

The reservation has three major facilities with continuing missions: Oak Ridge National Laboratory (ORNL), the Y-12 National Security Complex, and the East Tennessee Technology

Park (ETTP). ORNL conducts basic and applied research. Y-12 disassembles nuclear weapons and stores highly enriched uranium. ETTP (formerly the K-25 uranium enrichment facility, which ceased operation in 1986) is dedicated to environmental cleanup and waste management. Many surplus facilities at ETTP are being decontaminated and leased to private industry under a plan known as reindustrialization.

Cleanup and Stewardship Activities

DOE, with the knowledge of the public and concurrence of the U.S. Environmental Protection Agency (EPA) Region 4 and the Tennessee Department of Environment and Conservation (TDEC), divided the reservation into five administrative watersheds:

1. Bear Creek Valley – includes Y-12 waste disposal areas
2. Upper East Fork Poplar Creek – primarily includes Y-12 and Chestnut Ridge to the south
3. Bethel Valley – includes the main plant area of the ORNL
4. Melton Valley – includes most of the burial grounds at ORNL
5. ETTP – incorporates the entire ETTP site

At present, the DOE-Oak Ridge Operations Environmental Management Program has responsibility for 1,035 contaminated sites and facilities, 480 waste management facilities, and 6 offsite projects. Included are inactive tanks, pipelines, surplus facilities, unlined ponds, and approximately 1,100 acres of unlined radioactive and mixed-waste burial grounds.

DOE is expected to maintain ownership of most of the contaminated areas of the reservation after remediation is complete and therefore will be responsible for long-term stewardship. To ensure that unacceptable exposures to residual contamination do not occur, DOE and the other Federal Facility Agreement parties (EPA and TDEC) are committed to maintain the needed institutional controls for as long as necessary. This commitment is documented in each Record of Decision document for areas of the reservation where wastes are left in place.

DOE-Oak Ridge has accepted responsibility for long-term stewardship of these contaminated sites and has been developing with public input its *Long-Term Stewardship Strategic Plan* outlining stewardship activities for the reservation.

Stewardship activities on the reservation will be concurrent with ongoing missions of the three major facilities. These activities include maintaining engineered barriers to the spread of contaminants, monitoring groundwater and surface water, operating and maintaining the wastewater treatment units, and enforcing institutional controls.

Engineered controls include those activities that attempt to stabilize and/or physically contain waste, such as vaults, landfills, repositories, or caps placed over residual contamination. Institutional controls are those activities designed to prevent residual hazards from reaching people and the environment. Examples include warning signs, facility security, deed restrictions, building permits, and well-drilling prohibitions.

In December 2001, DOE-Headquarters issued a pre-decisional draft *Long-Term Stewardship Strategic Plan*. This draft plan contains DOE's mission, vision, major goals, and principles regarding a path forward for long-term stewardship. The DOE long-term stewardship mission is to manage residual risks and promote

the reduction of future environmental liabilities associated with the Department's cleanup and continuing operations, protect human health and the environment, sustain natural and cultural resources, and enhance the use of the Department's land and facilities for the public good.

Public Involvement

In 1997, a broad-based stakeholders' organization called the End Use Working Group (EUWG) was formed to study contaminated areas of the reservation and make recommendations about future land uses to DOE. The EUWG was sponsored by the Oak Ridge Site Specific Advisory Board (ORSSAB)—a federally chartered, volunteer citizens' panel. The EUWG published its final report in July 1998 (available on the Internet at www.oro.doe.gov/em/ssab/pubs.htm).

Before disbanding, the EUWG formed the Stewardship Working Group to study long-term stewardship on the reservation. This group published the two-volume *Oak Ridge Reservation Stakeholders Report on Stewardship* (www.oro.doe.gov/em/ssab/pubs.htm). The report made 30 recommendations for an Oak Ridge Reservation stewardship program. The report was widely distributed and has influenced stewardship planning at local and national levels. For purposes of its work, the EUWG defined stewardship as:

Acceptance of the responsibility and the implementation of activities necessary to maintain long-term protection of human health and of the environment from hazards posed by residual radioactive and chemically hazardous materials.

How You Can Become Involved

It is important for the community and future generations to ensure that DOE takes steps toward an effective stewardship program. Today the ORSSAB Stewardship Committee continues to offer an avenue for public involvement by providing DOE with advice and recommendations on long-term stewardship issues.

If you would like to become involved or learn more about stewardship, please call the ORSSAB support office at 865-576-1590 or 800-382-6938 or visit our Internet site at www.oakridge.doe.gov/em/ssab.